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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/621,377	07/18/2003	Wladyslaw Skarbek	1906-0118P	4062

2292 7590 02/20/2007		EXAMINER
BIRCH STEWART KOLASCH & BIRCH		STREGE, JOHN B
PO BOX 747		

ART UNIT	PAPER NUMBER
2624	

FALLS CHURCH, VA 22040-0747

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/20/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

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PTOL-90A (Rev. 10/06)

	Application No.	Applicant(s)
Office Action Summary	10/621,377	SKARBEK ET AL.
	Examiner	Art Unit
	John B. Strege	2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *18 July 2003* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *9/29/03*.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1.   Claims 17-19 are objected to under 37 CFR 1.75(c) as being in improper form

because a multiple dependent claim cannot depend from any other multiple dependent

claim. See MPEP § 608.01(n). Accordingly, the claims 17-19 have not been further

treated on the merits.

Claim Rejections - 35 USC § 112

2.   The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

3.   Claims 1-23 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

Claim 1 recites the limitation "the data elements" in lines 4-5. There is

insufficient antecedent basis for this limitation in the claim. The claims 2-23 are rejected

based on their dependency of claim 1. This is a rejection because it obscures the

meaning of the claim, it is uncertain where these data elements come from and what

their relationship is to the first data distribution or the original data distribution. For

examination purposes the examiner will assume that these are data elements (note

these elements need not correspond in any way to the distribution of line 1 or the first

distribution). Note also that there is also a disparity in the wording of the claim in that it

mentions a data distribution and then mentions a first data distribution derived from the

data distribution. However if the first data distribution is derived from a data distribution,

then it is clearly not the first distribution. Examiner requests that the applicant carefully

reviews the claim language in order to clarify what is being claimed.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
> matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
> conditions and requirements of this title.

Claim 22 is rejected under 35 U.S.C. 101 because claim 22 defines a computer

program embodying functional descriptive material. However, the claim does not define

a computer-readable medium or memory and is thus non-statutory for that reason (i.e.,

"When functional descriptive material is recorded on some computer-readable medium

it becomes structurally and functionally interrelated to the medium and will be statutory

in most cases since use of technology permits the function of the descriptive material to

be realized" – Guidelines Annex IV). That is, the scope of the presently claimed

computer program can range from paper on which the program is written, to a program

simply contemplated and memorized by a person. The examiner suggests amending

the claim to embody the program on "computer-readable medium" or equivalent in order

to make the claim statutory. Any amendment to the claim should be commensurate

with its corresponding disclosure.

Claim Rejections - 35 USC § 102

5.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6.   Claim 1-7,11,15-16, and 20-23 are rejected under 35 U.S.C. 102(e) as being

anticipated by Suchard et al. USPN 6,661,908 (hereinafter "Suchard").

Suchard discloses a method of representing a data distribution (signature)

derived from an object or image by processing signals corresponding to the object or

image (signature sampling col. 10 lines 30-42), the method comprising recursively

deriving an approximate representation of a first data distribution derived from said data

distribution (col. 7 lines 5-28) and analyzing the errors of data elements as a second

distribution when expressed in terms of the approximate representation (col. 9 lines 40-

65, the abnormal deviation is read as the errors of data elements).

Regarding claim 2, the data elements are made up of high dimensional vectors

and the approximate representation is of smaller subspaces of the signature (col. 7 lines

5-28).

Regarding claim 3, the subspace is derived using principal component analysis

(col. 7 line 57 – col. 8 line 6).

Regarding claims 4-5, the analysis of the errors involves clustering using a membership function (col. 8 line 7- col. 9 line 19).

Regarding claims 6-7, the analysis of the errors involves principal component analysis for each cluster to produce a subspace representative of each cluster (col. 7 line 57-col. 9 line 19).

Claim 11 is similarly analyzed to claim 1.

Regarding claim 15, the data is derived from an image of a signature.

Regarding claim 16, the signature is left by a person thus it corresponds to a person.

Claim 20 is similarly analyzed to claim 1.

Regarding claim 21, Suchard discloses an object input means (see figure 2).

Claims 22-23 are similarly analyzed to claim 1.

Claim Rejections - 35 USC § 103

7.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8.   Claims 8-10, and 12-14 rejected under 35 U.S.C. 103(a) as being unpatentable over Suchard in view of Srivastava et al. USPN 6,563,952 (hereinafter "Srivastava").

As discussed above Suchard discloses all of the limitations of claim 7. Suchard does not explicitly disclose analyzing the deviations to produce a tree structure with a

top node and nodes corresponding to the error clusters. However it is well known to

produce a tree structure when classifying high dimensional data.

Srivastava discloses such a method for the classification of high dimensional

data (col. 1 lines 5-10). Srivastava discloses that there is a problem with classification of

high dimensional data sets in that it is complex to build a data tree (col. 1 lines 57-65).

To overcome this problem Srivastava discloses determining which itemsets are large

itemsets, and then using large itemsets as additional attributes on which a tree node's

splitting criterion might be based (col. 2 lines 1-30). This allows for increased accuracy

in the decision structure.

Suchard and Srivastava are analogous art because they are from the same field

of endeavor of classifying high dimensional data.

At the time of the invention it would have been obvious to one of ordinary skill in

the art to combine Suchard and Srivastava to produce a tree structure with a top node

and nodes corresponding to the error clusters. The motivation for doing so would be to

allow for increased accuracy in the decision structure. Thus it would have been obvious

to one of ordinary skill in the art to combine Suchard and Srivastava to obtain the

invention of claim 8.

Regarding claim 9 Srivastava discloses stopping the repeating step for a given

cluster depending on the error values (col. 4 lines 16-61).

Regarding claim 10 Srivastava discloses extending the model using new data to

add new nodes to the tree (col. 4 lines 16-61).

Claim 12 is similarly analyzed to claim 8.

Regarding claims 13-14 Srivastava discloses using a membership value

representing the degree to which the data element corresponds to a node and

quantizing the membership values (col. 4 lines 16-61).

Conclusion

The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

USPN 5,561,718 Classifying faces.

Contact Information

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to John B. Strege whose telephone number is (571) 272-

7457. The examiner can normally be reached on Monday-Friday between the hours of

8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number

for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the
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Js

BHAVESH M MEHTA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600